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EC03-1892 Identifying Soybean Rust

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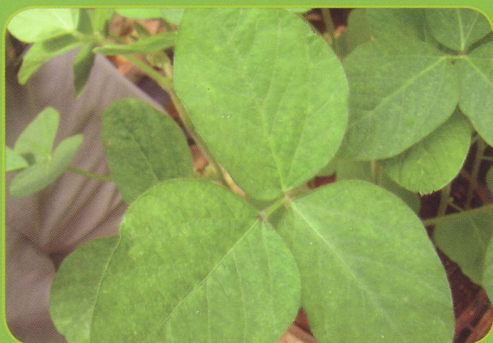
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IDENTIFYING SOYBEAN RUST



Back lit leaf



Early symptoms

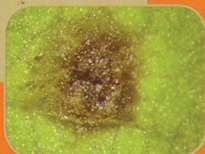
For confirmation and diagnosis of soybean rust
contact your state plant diagnostic lab.

These can be found listed at:

www.apsnet.org/directories/univ_diagnosticians.asp

BACTERIAL BLIGHT

- Affects mid-to-upper leaves.
- Angular lesions, reddish-brown to black centers.
- Initial angular water-soaked lesions with yellow halo.

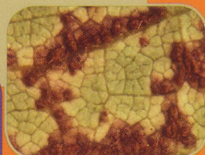


Difference from Soybean Rust:

Water soaking; angular lesions; lesions on leaf underside are not raised.

BACTERIAL PUSTULE

- Affects mid-to-upper leaves.
- Lesions — small spots to large irregular shapes without water soaking.
- Lesions associate with main veins; pustules form in lesion centers on leaf underside. (10X)



Difference from Soybean Rust:

Pustules not always with each lesion; pustules do not have spores in openings; openings are cracks instead of circular pores.

DOWNY MILDEW

- Affects upper leaves.
- Spots on surface enlarge into yellow lesions.
- Older lesions turn brown with yellow-green margins; size varies with age of leaf affected.
- Fuzzy fungal gray tufts on leaf underside (20X).



Difference from Soybean Rust:

Lesions larger than rust lesions; no raised pustules on underside; fuzzy fungal growth on underside.

SIMILAR

LOOKING DISEASES

CERCOSPORA BLIGHT AND FROGEYE LEAF SPOT

- Blight affects upper leaves exposed to sun after seed set; Frogeye affects lower leaves first.
- Blight starts as light purple areas on upper leaf surface which expands to cover surface; leaves leathery and dark reddish purple on upper surface only.
- Frogeye lesions start as dark, water-soaked spots; can have light centers; circular to angular brown spots with dark red-brown margins.



Difference from Soybean Rust: Blight — overall leaf area is discolored on upper surface only. Frogeye — discrete lesions larger than rust with defined lesion margins; no pustules evident on underside.

BROWN SPOT

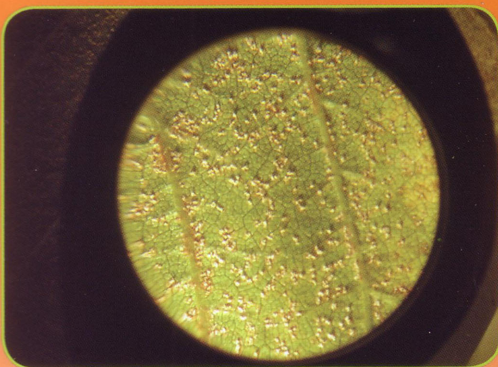
- Affects lower leaves first.
- Irregular-shaped dark brown lesions on both leaf surfaces; size — small spots to large areas; adjacent lesions can form irregular shaped blotches.
- Infected leaves quickly yellow and drop.



Difference from Soybean Rust: No raised areas on leaf underside; angular lesions; if dark lesions, lack of uredia is key symptom; first symptoms can look like rust; has same canopy distribution as rust.



Upper leaf symptoms



Pustules (spores) under 20X hand lens

When scouting for soybean rust, focus on:

- Early planted fields with early maturing varieties
- Low lying or protected fields with prolonged dew periods
- Fields with early canopy closure

For soybean rust detection on the plant:

- Examine lower leaves of the plant
- Use a 10 to 20X hand lens to detect pustules (spores) on underside of leaves



Ontario

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Our soybean checkoff.



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